



PC 20

Mini Digital Camcorder



Instruction Manual

Please read this manual carefully before operation

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Package Contents

Thank you for purchasing this PC20 Mini Digital Video Camera. Please read these instructions before using your camcorder, and retain them for future reference. This package includes:

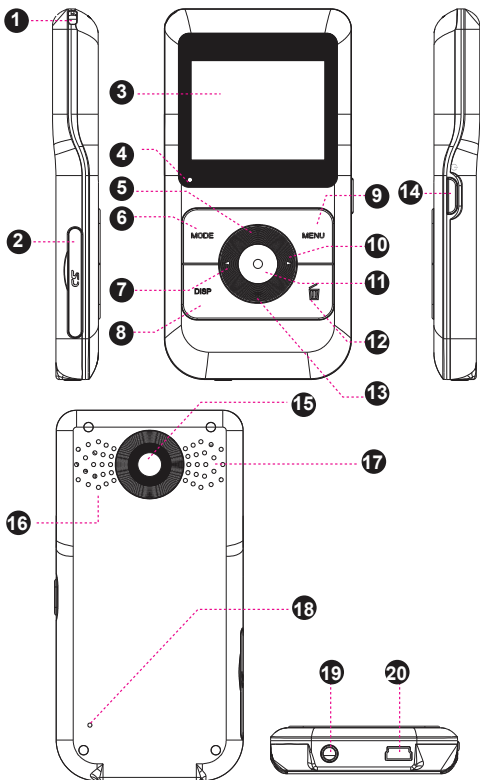
- ✦ PC20 digital video camera
- ✦ AV cable
- ✦ USB cable
- ✦ Installation CD
- ✦ Detachable hand strap

Should any of the above items be missing, please contact the dealer from whom you purchased this product.

Overview

Unit Overview

English



Overview

Left View	
1.	Strap hole
2.	SD Card slot
Front View	
3.	LCD display
4.	LED indicator
5.	UP/Zoom in button <UP>
6.	MODE button <MODE>
7.	LEFT button <LEFT>
8.	Press the button to change the recording quality in Video or Photo mode. < DISP >
9.	MENU button <MENU>
10.	RIGHT button <RIGHT>
11.	OK button <OK>
12.	DELETE button <DELETE>
13.	DOWN button <DOWN>
Right View	

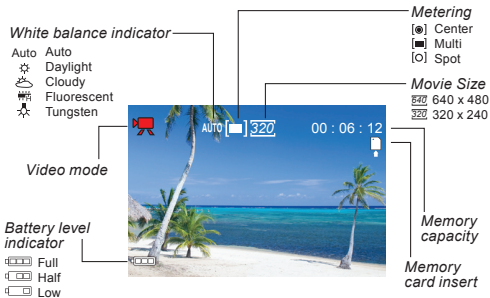
14. Power button <i>Press and hold the button to power the camera on/off.</i>	<POWER>
Back View	
15. Camera LENS	
16. Microphone	
17. Speakers	
18. Reset Button	<RESET>
Bottom View	
19. AV Out	
20. USB Port <i>Connect to a computer to transfer files to the computer.</i>	

Overview

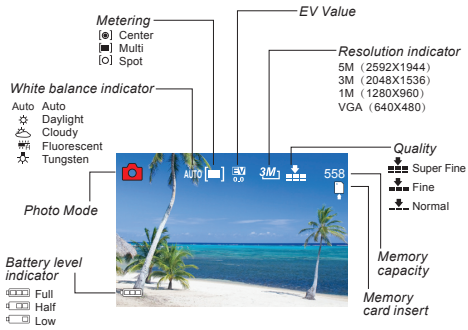
English

Display Overview

Video Mode



Capture Mode



Getting Started

Please read and complete the following steps to begin using your digital video camera.

Charging the Battery

Your camera has an integrated rechargeable battery. Upon initial use, the battery should be charged fully to ensure optimal performance and battery life.

If the camera has not been used in a while, the battery may need to be recharged.



Upon initial use, the battery should be charged fully (8 hours) to ensure optimal performance and battery life.



The battery used in this device may present a fire or chemical burn if mistreated. Do not disassemble, incinerate, or heat the battery. Do not leave the battery in a place subject to direct sunlight, or in a car with its windows closed.

Do not connect the camera to a power source other than that which is indicated here or on the label as this may result in the risk of fire or electric shock.

Inserting a Memory Card

Use an SD/SDHC memory card to expand your digital video camera's available memory. The PC20 can accommodate memory cards of up to 16GB. Install a memory card by inserting it gently into the SD card slot on the leftside of the video camera.

Getting Started

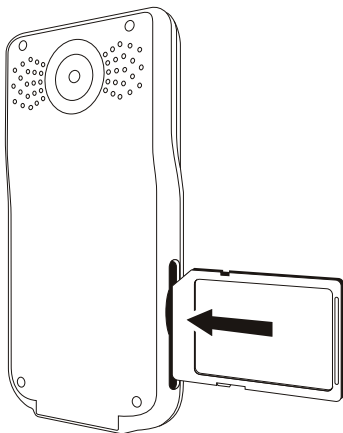
To remove the memory card, press it further into the card slot and then release. The card should automatically eject from the slot. Grasp it by the edge and pull gently to fully remove



To avoid data corruption, turn off the digital video camera before inserting or removing a memory card.

Do not attempt to place any object other than an SD memory card into the SD card slot. A compatible memory card should slide easily into the SD card slot; if you encounter resistance, do not attempt to force the card in.

For information on formatting a memory card, please see the Setup Menu section of this manual.






Turning the Digital Video Camera On/Off

- ✦ To turn the camera on, press and hold the <POWER> button until the screen turns on.
- ✦ To turn the camera off, press and hold the <POWER> button until the screen turns off.

Camera Modes

Your digital video camera includes three modes. Press the <MODE> button to toggle between them.

Icon	Function
	Video Mode: Record video clips
	Photo Mode: Capture still images
	Playback Mode: Review video and image files

Video Mode

When you turn on your digital video camera, it will automatically enter Video Mode. To record video:

- ✦ Press the <OK> button to begin recording.
- ✦ Press the <OK> button again to stop and save the recording.

Basic Operation



During recording, the total elapsed recording time is displayed in the upper righthand corner of the LCD screen. When the camera is in video mode and not recording, the estimated available recording time will be displayed in the upper righthand corner.

Recording will stop automatically when the memory card is full.

Zoom

Use the <UP> or <DOWN> button to effect the camera's digital zoom function.

- ✦ Press <UP> to zoom in, down to zoom out.
- ✧ The magnification value will appear in the bottom righthand corner of the LCD screen.

Movie Size

Your video camera records at a default movie size of 640x480 pixels. To maximize the camera's available memory, you may wish to record video at a lower resolution. To change the movie size, press < DISP >. The movie size will be displayed at the top of the LCD screen as 640 (default size) or 320 (smaller size).



If you wish to use this function, you must adjust the film size before you begin recording. You cannot change the film size mid-recording.

Photo Mode


- ✦ Turn on the video camera and press the <MODE> button to enter Photo Mode.
- ✦ Hold the camera steady, then press the <OK> button to take a picture.



After you take a picture, the estimated number of pictures remaining on the camera memory or memory card will be displayed in the upper righthand corner of the LCD screen.

To review your video or image files, press the <MODE> button to select Playback Mode. The most recently recorded video or image file will appear on the LCD screen.

Video Playback

After setting the video camera to Playback Mode, press the <LEFT> or <RIGHT> button to scroll through the available files. Video files are indicated by the [] icon on the up-right corner of the LCD screen.

- ✦ When the desired video clip appears on screen, press the <OK> button to begin playback.
 - ✧ To pause playback, press the <OK> button. Press it again to resume playback.
 - ✧ To fast forward through the video file, press and hold the <RIGHT> button.
 - ✧ To rewind through the video file, press and hold the <LEFT> button.
- ✦ To stop playback, press the <MENU> button.

Image Playback

After setting the video camera to Playback Mode, press the <LEFT> or <RIGHT> button to scroll through the available files.

- ✦ To zoom out on an image, press the <UP> button.
- ✦ When the image is displayed at your desired zoom setting, press the <OK> button to lock the zoom ratio in place. You may then press <LEFT>, <RIGHT>, <UP>, or <DOWN> to pan back and forth (or up and down) across

the picture.

- ✦ To return the image to full screen view, press the MENU button.

Thumbnail View

To view thumbnail images of all available files, press < DISP >. The screen will display files in thumbnail mode.

- ✦ Press <LEFT>, <RIGHT>, <UP>, or <DOWN> to select your desired file.
- ✦ Press the <OK> button to view the selected file in full screen.



The video files will be indicated with a symbol < V > at the left-down corner of the thumbnail image.

Menu Options

You can access a variety of additional options by pressing the <MENU> button in Video, Photo, or Playback Mode.

- ✦ Press <UP> or <DOWN> to move the selection up or down.
- ✦ Press <OK> to confirm a selection.
- ✦ Press <LEFT> or <MENU> to back to the previous screen.

Check below for details on menu options.

Video Mode Menu

Item	Description
Movie Size	Choose a film size (640x480 pixels/320X240 pixels.) Select the smaller film size to maximize your available recording time. ✦ For alternate means of setting the movie size, please read the Video Mode section of this manual's Basic Operation chapter.
Frame Rate	Choose a frame rate option (High/Low). Select the Low frame rate to maximize your available recording time.

Menu Options

Item	Description
Metering	Adjust the exposure of the image by designating a reference area within the frame. Options include: Center: The exposure will be calculated based on light in the central area of the frame. This option is suitable for general use. Multi: The exposure will be calculated based on the average light throughout the frame. Spot: The exposure will be calculated based on the light in the very center of the frame.
White Balance	Adjust the white balance to current light conditions. Options include: Auto, Daylight, Cloudy, Fluorescent, or Tungsten.

Photo Mode Menu

Item	Description
Resolution	Select the image resolution. Options include: [5M] 2592x1944, [3M] 2048x1536, [1M] 1280x960, [VGA] 640x480 ✦ A lower image resolution will result in a smaller file size.
Quality	Select the image quality (Fine, Super Fine, or Normal.) A lower image quality will result in a smaller file size.

Menu Options

Item	Description
Metering	<p>Adjust the exposure of the image by designating a reference area within the frame. Options include:</p> <p>Center: The exposure will be calculated based on light in the central area of the frame. This option is suitable for general use.</p> <p>Multi: The exposure will be calculated based on the average light throughout the frame.</p> <p>Spot: The exposure will be calculated based on the light in the very center of the frame.</p>
White Balance	<p>Adjust the white balance to current light conditions. Options include: Auto, Daylight, Cloudy, Fluorescent, or Tungsten.</p>
Exposure	<p>Set the exposure value manually to compensate for unusual lighting conditions such as indirect indoor lighting, dark backgrounds, or strong backlighting. The exposure value range is -1.3 to 1.3.</p>
Driver Mode	<p>Set the self-timer mode.</p> <p>✦ For alternate means of setting the self-timer, please read the Photo Mode section of this manual's Basic Operation chapter.</p>
Effect	<p>Set the image effect, the settings are: Normal, B&W, Sepia, Negative, Red, Green, and Blue.</p>

Menu Options

Item	Description
Date Stamp	This function can be used to add a date or date/time stamp to your pictures as you take them. Options include: Off: No date/time data displayed. Date: Date is displayed. Date & Time: Date and time are displayed.


Playback Mode Menu

Item	Description
Lock	Lock files to protect them from accidental deletion. A locked file cannot be deleted. Options include: Lock/Unlock One: Lock/Unlock current file. Lock All: Lock all files. Unlock All: Unlock all files.
Delete	Delete files from the video camera. Options include: One: Delete current file. All: Delete all files. <ul style="list-style-type: none">The "All" option will not delete locked files.
Slide Show	Set slideshow options and view your files in slideshow mode. For more information, please refer to the Additional Image Playback Options section of this manual's Playback chapter.

Menu Options

Item	Description
Effect	<p>Change the image effect, the settings are: B&W, Sepia, Negative, Red, Green, Blue, Binarize, Sunset, Warm, Cold, and Contrast.</p> <ul style="list-style-type: none">✦ Press <UP> or <DOWN> to select a setting.✦ Press <OK> to confirm and save it as a new image.
Rotate	<p>Rotate an image file in increments of 90°. For more information, please refer to the Additional Image Playback Options section of this manual's Playback chapter.</p>
Resize	<p>Resize an image file. For more information, please refer to the Additional Image Playback Options section of this manual's Playback chapter.</p>
Start-up Image	<p>Set a favorite image to display on the video camera's LCD screen when the camera is turned on. For more information, please refer to the Additional Image Playback Options section of this manual's Playback chapter.</p>

Setup Menu

The Setup Menu is designated by the [] icon and can be accessed from any one of your digital video camera's operating modes. Press the <MENU> button, then press <LEFT> or <RIGHT> to begin accessing the setup menu.

Menu Options

Item	Description
Sounds	Change or disable the sounds associated with your camera's functions. Options include: Shutter: Turn the shutter sound On/Off. Start-up: Select a start-up sound (None, 1, 2, or 3.) Beep: Turn the operating sound On/Off. Volume: Adjust the sound volume.
Auto Review	Adjust the time that a captured image remains on-screen. Options include Off (no auto-review), 1 second, or 3 seconds.
Power frequency	Set the frequency to either 50Hz or 60Hz depending on your region. (Europe frequency is 50Hz.)
Power save	To preserve battery power, your digital video camera will shut off automatically after a set period of time when not in use. You may set the automatic shutdown to occur after 1, 3, or 5 minutes.
Date Time	Set the internal date and time.
Language	Set the language that the on-screen menus appear in.
TV Out	Set this option to either NTSC or PAL depending on your region.

Menu Options

Item	Description
USB	Set this option to use your digital camera as a PC camera or removable disk. Options include: PCCAM: Use as a PC camera; MSDC: Use as a removable disk.
Start-up Image	Select an image to display on your video camera's LCD screen immediately upon startup. Options include: Off: No start-up image. System: Use the default image as the start-up image. My image: Use your selected image as the start-up image. ✦ To enable the "My image" option, you must have already selected a start-up image using the Playback Mode menu. Please refer to the the Additional Image Playback Options section of this manual's Playback chapter for more information.
Format	Select this option to format your video camera's internal memory or an inserted memory card. NOTE: Performing this function will delete all data on your video camera and/or memory card.
Reset All	Select this option to format your video camera's internal memory or an inserted memory card. NOTE: Performing this function will delete all data on your video camera and/or memory card.

Managing Files on the Video Camera

Lock Files

After you have taken a video clip or still image, you may wish to lock the file/s to protect them from accidental deletion. To lock your file(s):

1. In Playback Mode, press the <MENU> button.
2. Press <UP> or <DOWN> to select and enter the "Lock" menu.
3. Press <UP> or <DOWN> to move the selection up or down.
 - ✧ Lock/Unlock One: To lock/unlock the current file.
 - ✧ Lock All: To lock all files.
 - ✧ Unlock All: To unlock all files.

Delete Files

To delete files from the video camera:

1. In Playback Mode, press the <MENU> button.
2. Press <UP> or <DOWN> to select and enter the "Lock" menu.
3. Press <UP> or <DOWN> to move the selection up or down.
 - ✧ One: To delete the current file.
 - ✧ All: To delete all files.



Selecting the "All" option will not delete locked files.

Transferring Files to a Computer

Connect your digital video camera to a computer to transfer files from the camera onto your hard drive.

1. Power on your video camera. In the Setup Menu, set the USB Mode to "MSDC". (Please see the Menu Options section for additional information.)
2. Connect one end of the supplied USB cable to the USB port on your digital video camera. Connect the other end to your computer.
3. Your computer should automatically recognize the video camera as a removable disk. Follow the prompt on your screen to view files on the camera. If no prompt appears, you may access the camera via "My Computer" or Windows Explorer.
4. Copy and paste files from the camera to your computer as you would with any external disk.



If you wish to transfer files from an SD card, you may leave the SD card in the card slot and connect the camera directly to your computer. Your computer will recognize the inserted SD card as an external drive. Or, remove the SD card and insert it directly into your computer's card reader to transfer files.

If you are using an SD card and wish to access files on your camera's internal memory, you must remove the SD card before connecting the camera to your computer. If an SD card is present, your computer will not recognize files that are stored directly on the camera.

Connecting to a TV

To view your video and image files on a bigger screen, use the included cable to connect your digital video camera to a television.

1. Power on the video camera and place it in the desired mode.
 - ✧ Select Video Mode if you want to use your television to preview content as you record it.
 - ✧ Select Playback Mode if you want to review the video and/or image files you have already taken.
2. Plug in the supplied AV cable to your video camera's AV Out jack.
 - ✧ Your camera's LCD screen will go dark when the AV cable is connected.
3. Connect the other end of the AV cable to the input jack on your television. For additional assistance, please see your television's instruction manual.
4. Set your television's source mode to "AV". The television screen will now act as a display for your digital video camera.
5. Use the video camera's controls to preview your recording and/or play back image and video files on your television.

Additional Features

Your digital video camera comes with an installation CD which includes software for enabling your video camera's use as a webcam. To begin installing software, insert the CD into your computer's CD drive.

Using Your Digital Video Camera as a Webcam

You must install the corresponding driver before attempting to use your digital video camera as a webcam. Double click "SPCA1528_V2250_WHQL_MultLan.exe", then follow the on-screen instructions to complete installation.

After you have installed the driver, you may connect your video camera to your computer for use as a webcam. To access this function:

1. Power on your video camera.
2. Press the <MENU> button and access the Setup Menu.
3. Select and confirm "USB".
4. Press <UP> or <DOWN> to select the "PCCAM" and press <OK> to confirm.
5. Using the supplied USB cable, connect your video camera to the USB port on your computer.
6. Double click the Amcap shortcut on your desktop to start the software, then your video camera will ready for use as a webcam with most chat and videoconferencing clients.
 - ✧ Or you can start the software under your computer's Start menu, access Program Files → SPCA1528 PC Driver → Amcap.

Additional Options

If you are using the webcam feature and wish to preview or capture video directly, you can do so using the software. To begin:

1. Click "Options" and select "Preview" from the drop-down menu. A window will appear that shows the live feed from your video camera.
2. Use the other options to capture video or change the webcam settings on your video camera. For more information, click the Amcap program "Help" menu.

Troubleshooting

If you have a problem with this device, please read the troubleshooting guide below.

Camera does not power on.

- Check that the batteries have adequate charge. If the batteries are old or do not have adequate charge, replace the batteries.

The camera does not take pictures/video.

- The camera's memory or memory card may be full. Delete several files and try again.
- An incompatible memory card may be inserted. Check that the memory card is in a compatible format.
- If the memory card has not been formatted, use the camera's Format function to clear data from the memory card.

Image is blurry or out of focus.

- Blurry images or video may result when the camera is not held steady during recording. Hold the camera steady and try again.

Memory card images are not displayed on the LCD screen.

- This camera will only display JPG images that have filenames in the following format: SUNP####.jpg. If you have inserted a memory card containing images in another format or filename structure, they will not display. Check the format of the images on your memory card.

Recorded images are not saved in memory.

- Images will not save if the camera is turned off before data has finished processing. Be sure to allow adequate time for the image to save completely before turning off the video camera.

I cannot access the pictures on my camera or memory card from my computer.

- Ensure that the camera's USB mode is set to MSDC. (See the Menu Options section for more information.)

Specifications

Display Type	2.0" color TFT LCD
Image Sensor	3MP CMOS (2048 x 1536)
Video Resolution	VGA (640 x 480) @ 30fps, QVGA (320 x 240) @ 30fps
Zoom	4x Digital
Photo Resolution	2592X1944 (5M by software interpolation) 2048 X 1536 (3M) 1024 X 768 (1M) 640X480 (VGA)
Memory	32MB Flash
Removable Memory Support	SD/SDHC (up to 16GB)
Key Functions	Digital Video Recorder, Image Capture (Camera)
Other Features	PC Camera
Video Format	AVI file, codec: Motion JPEG
Photo Format	JPEG
PC Interface Support	USB 2.0 Hi-Speed
AV Output	3.5mm Composite Video and Mono Audio
Power	Integrated Rechargeable Battery

Specifications are subject to change without notice.

For more information please check our website

www.mpmaneurope.com

